

Proposed Item for Biobased Designation

The following biobased product information has been collected to support item designation by USDA for the Federal Biobased Product Preferred Procurement Program (FB4P). This summary reflects data available as of July 26, 2006. Additional performance standards added as of March 26, 2007.

Title: Biodegradable Films

Description: Films used in packaging and other applications made from biobased materials that meet ASTM D6400 standards for biodegradability.

Manufacturers Identified: 15 manufacturers producing Biodegradable Films have been identified through internet searches, manufacturer's directories, trade associations, and company submissions.

Industry Associations Investigated: The following industry associations have been investigated for member companies producing Biodegradable Films:

- Organic Trade Association
- BioMatNet
- Packaging World
- Biobased Manufacturers Association
- United Soybean Board
- California Film Extruders and Converters Association

Commercially Available Products Identified: Of the manufacturers identified, 42 Biodegradable Films are commercially available on the market.

Product Information Collected: Specific product information including company contact, intended use, biobased content, and performance characteristics have been collected on 7 Biodegradable Films.

Industry Performance Standards: Product information submitted by biobased manufacturers indicate that have typically been tested to the following industry standards:

- American Society for Testing and Materials #D6400 Standard Specification for Compostable Plastics
- Deutsches Institut für Normung, the German Institute for Standardization #DIN V 54900 Standard for testing the compostability of polymeric materials
- American Society for Testing and Materials D3359 Standard Test Methods for Measuring Adhesion by Tape Tests

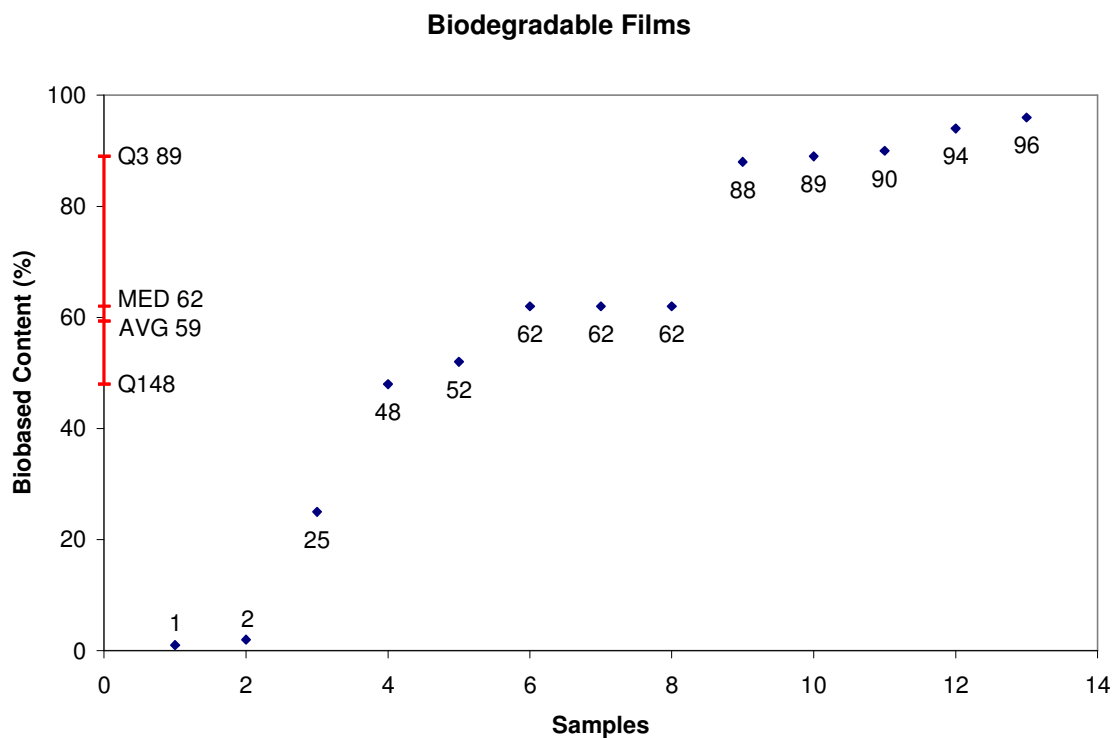
Samples Tested for Biobased Content: 13 samples of Biodegradable Films have been submitted to independent laboratories for biobased content testing as specified by ASTM standard D6866-04.

Biobased Content Data: Results from biobased content testing of Biodegradable Films indicate a range of content percentages from 1% minimum to 96% maximum biobased content as defined by ASTM D 6866-04. A detailed distribution of biobased content levels is included as Appendix A.

Products Submitted for BEES Analysis: Life-cycle cost and environmental effect data for 4 Biodegradable Films have been submitted to NIST for BEES analysis.

BEES Analysis: The life-cycle costs of the submitted Biodegradable Films range from \$6.60 minimum to \$8.17 maximum per usage unit. The environmental scores range from 0.0150 minimum to 0.5682 maximum. A detailed summary of the BEES results is included as Appendix B.

Appendix A - Biobased Content Data

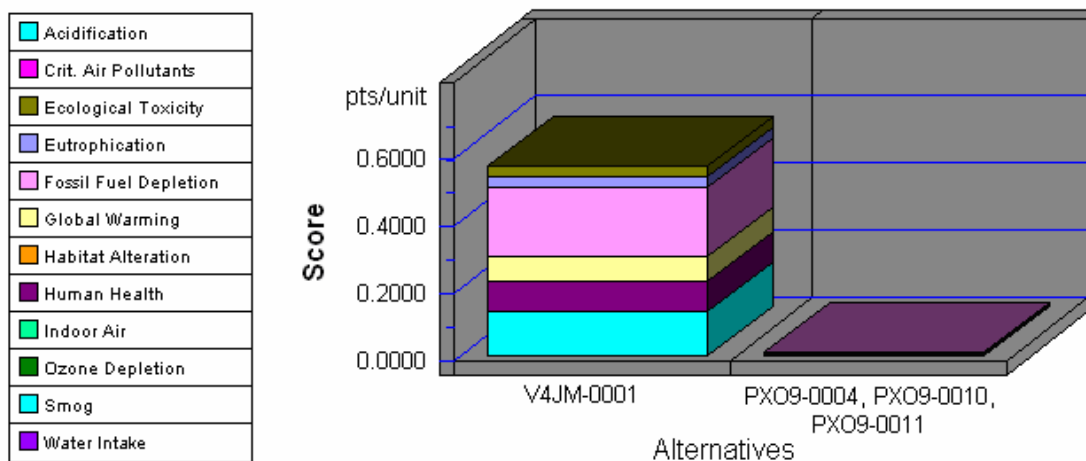


	Manufacturers Identified	Products Identified	C14	BEES
1	OLX2	OLX2-0002	1	
2	M8NS	M8NS-0002	2	
3	BP37	BP37-0019	25	
4	BP37	BP37-0011	48	
5	BP37	BP37-0001	52	
6	PXO9	PXO9-0011	62	yes
7	PXO9	PXO9-0010	62	yes
8	PXO9	PXO9-0004	62	yes
9	V4JM	V4JM-0004	88	
10	V4JM	V4JM-0002	89	
11	V4JM	V4JM-0003	90	
12	V4JM	V4JM-0001	94	yes
13	OLX2	OLX2-0006	96	

Appendix B - BEES Analysis Results

Functional Unit: 1 Kilogram

Environmental Performance

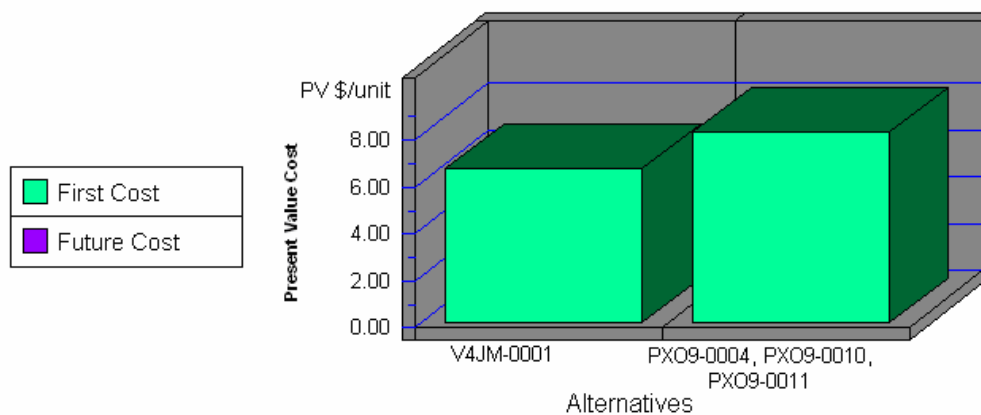


Note: Lower values are better

Category	V4JM-0001	PX09-0004, PX09-0010, PX09-0011
Acidification--5%	0.0001	0.0000
Crit. Air Pollutants--6%	0.0046	0.0001
Ecolog. Toxicity--11%	0.0277	0.0006
Eutrophication--5%	0.0330	0.0005
Fossil Fuel Depl.--5%	0.2052	0.0084
Global Warming--16%	0.0717	0.0020
Habitat Alteration--16%	0.0000	0.0000
Human Health--11%	0.0893	0.0020
Indoor Air--11%	0.0000	0.0000
Ozone Depletion--5%	0.0000	0.0000
Smog--6%	0.1365	0.0012
Water Intake--3%	0.0001	0.0002
Sum	0.5682	0.0150

Appendix B (continued)

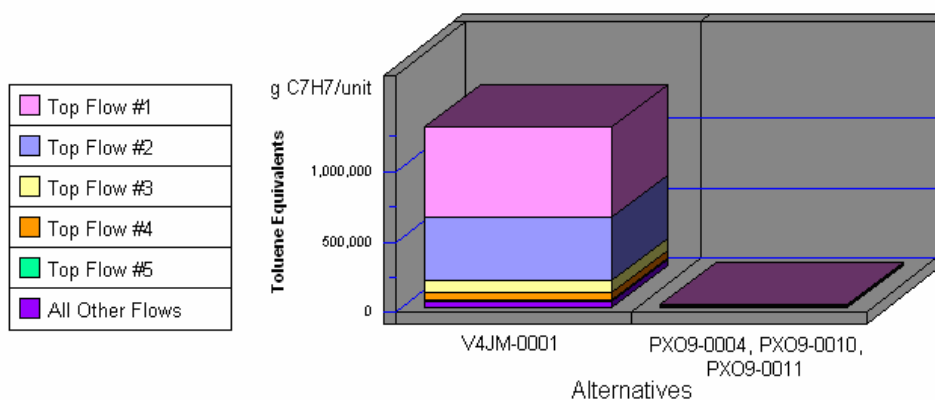
Economic Performance



Category	V4JM-0001	PX09-0004, PX09-0010, PX09-0011
First Cost	6.60	8.17
Future Cost-- 3.9%	0.00	0.00
Sum	6.60	8.17

*No significant/quantifiable durability differences were identified among competing alternatives. Therefore, future costs were not calculated.

Human Health by Sorted Flows*



Note: Lower values are better

Category	V4JM-0001	PX09-0004, PX09-0010, PX09-0011
Cancer--(w) Arsenic (As3+, As5+	643,670.68	11,513.79
Cancer--(w) Phenol (C6H5OH)	443,395.40	12,427.90
Cancer--(a) Dioxins (unspecifc)	91,519.46	2,554.12
Cancer--(a) Arsenic (As)	50,293.12	825.39
Noncancer--(w) Barium (Ba++)	15,897.97	321.74
All Others	43,601.41	1,082.52
Sum	1,288,378.04	28,725.47

*Sorted by five topmost flows for worst-scoring product